



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
C9/596,851	06/19/2000	Gary M. Diamond	99-109	4220

22905 7590 12/31/2002

SYMYX TECHNOLOGIES INC  
LEGAL DEPARTMENT  
3100 CENTRAL EXPRESS  
SANTA CLARA, CA 95051

EXAMINER

BAKER, MAURIE GARCIA

ART UNIT

PAPER NUMBER

1639

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/596,851**

Applicant(s)

**Diamond et al**

Examiner  
**Maurie G. Baker, Ph.D.**

Art Unit  
**1639**



**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Sep 23, 2002

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 16, 17, 19-38, and 40-58 is/are pending in the application.

4a) Of the above, claim(s) 20-23, 27, 29, 34-36, 40, 44, 46-49, and 51-58 is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 16, 17, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45, and 50 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements.

## Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 17

6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

**Please note:** The number of Art Unit 1627 has been changed to 1639. Please direct all correspondence for this case to Art Unit 1639.

1. The Response filed September 23, 2002 (Paper No. 16) is acknowledged. Claims 16 and 42 were amended and claims 1-15, 18, 39 and 59-69 were cancelled. Therefore, claims 16, 17, 19-38 and 40-58 are pending.

2. Claims 20-23, 27, 29, 34-36, 40, 44, 46-49 and 51-58 remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected species, there being no allowable generic claim. With respect to applicant's arguments that these claims should be examined (Response, page 3), applicant is again referred to MPEP § 803.02. This section does deal with species elections (e.g. claims to the nonelected species held withdrawn from further consideration). The examiner's withdrawal of the above claims from consideration is deemed to be proper in view of the fact that there is *no allowable generic claim*. However, as stated in the Restriction Requirement, upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141.

3. Therefore, claims 16, 17, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45 and 50 are examined on the merits in this action.

***Withdrawn Rejections***

4. The previous rejection under 35 U.S.C. 112, second paragraph is withdrawn in view of applicant's cancellation of claim 18.

***Specification***

5. The disclosure is objected to because of the following informalities: In the amendment to page 11 set forth in the Response, there appears to be some extra text that was inadvertently added to the end of the paragraph. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 16, 17, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45 and 50 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tol et al (WO 97/42232 - on PTO-1449) in view of Willson (WO 97/32208 - on PTO-1449).

Van Tol et al teach a method for polymerization of alpha olefins using various catalysts (see Abstract). The method is first carried out with the monomer of octene (reading on the limitations of the instant 37, 38 and 41), see page 28, beginning on line 9. The method is then carried out with octene and other monomers, see Example II beginning on page 28, line 26. Octene and ethylene are polymerized in Example III of the reference (page 31). Since Van Tol et al starts off by only using octene and then goes on to use other monomers in their polymerization process, this is deemed to read on the limitation where the “polymerization performance of the potential catalysts is determined for at least a first monomer as a predictor for the polymerization performance of the potential catalysts for at least a second monomer” of claim 16 and also the limitations of claim 17. Note that Van Tol et al characterize the octane polymer by determining molecular weight and unsaturation (NMR) {Example I} and others by amount of polymer produced {Example II}. The other polymers made by incorporation of

other monomers were also characterized. This reads on the limitations in instant claims 19, 30, 45 and 50.

The reactions were quenched to stop the polymerization after a two hour period (page 28, lines 16-18), reading on the limitations of claim 31 and 32. Van Tol et al teach a variety of catalyst systems, see page 33, Table 1 of the reference.

Van Tol et al lack the specifics of testing an “array of at least 8 potential polymerization catalysts” by “concurrent reaction” (claim 16) and the limitations of claims 24-26, 28, 33, 42 and 43 concerning testing arrays, array format, number of elements in the array and time per assay. However, the findings of *In re Aller* should be considered: “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Moreover, various formats for preparing and testing collections of catalysts were well known in the art at the time of filing. Willson teaches a multicell holder for assembling and testing large numbers of catalysts as cells, spots or pellets (see Abstract; Figure 1 and page 2, lines 14-29). In preparing Willson’s arrays of catalysts, “the catalyst candidate precursors can be deposited...by any convenient technique, preferably by pipette or absorbing stamp...In preferred embodiments, the deposition process will be under robotic control, similar to that used to load multicell plates in biochemical assays” (page 4, top). Willson also teaches that robotic techniques can be employed. The

reference teaches that their set-up permits “the scanning of dozens of catalysts in a single set-up, often in less time than required for a single catalysts to be evaluated by conventional methods” (page 2, lines 1-11). Willson also teaches that “[o]nce the catalysts are in place on the support, any suitable technique known to the art can be used to stabilize, and/or activate the particular catalysts chosen” (page 4, bottom). The reference teaches that the invention “has utility with any reaction which can be enhanced by the presence of a catalyst ... including ...polymerization reactions...” (page 5, lines 5-11).

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art to use the catalysts and methodology of Van Tol et al in a combinatorial type setting (assay) to make and test arrays of catalysts as taught by Willson for polymerization performance based on the results of initial monomer testing (as set forth by Van Tol et al). Willson demonstrates that physical and spatial manipulation of catalyst arrays was well known in the art at the time of filing. The techniques for these manipulations result in a more automated work environment. One of ordinary skill would be motivated to use various automated manipulation techniques known to the combinatorial chemistry art (as evidenced by the teachings of Willson) based on their known advantages. The advantages are specifically taught, for example, in Willson, that is “sharply reduce labor costs per catalyst screened”.

*Response to Arguments*

9. Applicant's arguments filed September 23, 2002 have been fully considered but are not found persuasive. The examiner's rationale is set forth below. Note that the above rejection is deemed to read on the claims *as amended* because the added limitation with respect to "planning" is not given any patentable weight. Specifically see paragraphs 13-15 below.

10. Applicant argues that the claims "require that a prediction be made" (Response, page 3). Applicants also cite dictionary definitions of screening and predict (Response, page 4 and Exhibits A & B) and argue that the Van Tol reference does not carry out these processes. The examiner respectfully disagrees. As stated in the rejection, since Van Tol et al starts off by only using octene and then goes on to use other monomers in their polymerization process, this is deemed to read on the limitation where the "polymerization performance of the potential catalysts is determined for at least a first monomer as a predictor for the polymerization performance of the potential catalysts for at least a second monomer".

11. There are no additional limitations set forth in the instant claims as to what constitutes the step of "polymerization performance of the potential catalysts is determined for at least a first monomer as a predictor for the polymerization performance of the potential catalysts for at least a second monomer". That is, there are no specific values or algorithms that are to be used in making this prediction set forth in the instant



claims. Moreover, Applicant's specification states that "the step of using the determination as a predictor comprises copolymerizing the first and second monomer using the catalysts" (page 11, lines 24-25). The above-mentioned teachings of Van Tol clearly read on this.

12. Also, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. benchmarks of performance that are set at particular values; i.e. Response, page 4, middle) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. On the whole, applicant's arguments are directed to the step of using the determination as a predictor (and for planning) and that such is not taught by the prior art. However, some of these "steps" are set forth in the preamble of the method. Note that the preamble is not given the effect of a limitation unless it breathes life and meaning into the claim. In order to limit the claim, the preamble must be "essential to point out the invention defined by the claim." *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (discussed below). A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. *In re Hirao*,

535 F.2d 67, 190 USPQ 15 (CCPA 1976) {see MPEP § 2111.02}. The references that are set forth in the rejection above clearly teach the steps of the claimed method, thus the method is deemed to be *prima facie* obvious.

14. Also, these limitations appear to be directed at the intended use of the claimed method. In apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

15. Applicants argue that steps such as “prediction” and “planning” differentiate their process from the prior art; however, these are mental steps as currently claimed and the prior art process could be used for this purpose (i.e. prior art capable of performing the intended use). Again, the added limitation of “using the polymerization performance as a figure of merit for planning” is a mental act that is not given any patentable weight. There is no ascertainable manipulative difference that results from this step.

16. Thus, the examiner’s position is that the teachings of Van Tol et al and Willson render the method of the instant claims *prima facie* obvious in view of the fact that Van

Tol et al starts off by only using octene and then goes on to use other monomers in their polymerization process and the teaching of Willson that various formats for preparing and testing collections of catalysts were well known in the art at the time of filing. As stated in the rejection, Van Tol et al teach initial monomer testing and Willson demonstrates that physical and spatial manipulation of catalyst arrays was well known in the art at the time of filing.

17. With respect to Exhibit C and the commercial success of the invention, the examiner would like to set forth several points. First, the proffered evidence is *not* commensurate in scope with the claimed invention (see MPEP § 716.03(a)). In order to be commensurate in scope with the claims, the commercial success must be due to claimed features, and not due to unclaimed features. *Joy Technologies Inc. v. Manbeck*, 751 F. Supp. 225, 229, 17 USPQ2d 1257, 1260 (D.D.C. 1990), *aff'd*, 959 F.2d 226, 228, 22 USPQ2d 1153, 1156 (Fed. Cir. 1992).

18. Second, the “evidence” is in the form of a presentation that is attached to the Response, and not as an appropriate affidavit or declaration. Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196

(Fed. Cir. 1984). Also see MPEP § 716.03: An applicant who is asserting commercial success to support its contention of nonobviousness bears the burden of proof of establishing a nexus between the claimed invention and evidence of commercial success.

19. Lastly, arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant.

20. For these reasons and the reasons of record, the rejection of claims 16, 17, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45 and 50 under 35 U.S.C. 103(a) is maintained.

### ***New Rejections***

#### ***Claim Rejections - 35 USC § 112 -- Necessitated by Amendment***

21. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

22. Claims 16 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 16 and 42, the newly added phrases “using the polymerization performance as a figure of merit for planning...” and “using the determination as a figure of merit for planning...” (respectively) are confusing and render the claims indefinite. If the scope of the invention sought to be patented cannot be determined from the language of the claims with a reasonable degree of certainty, a rejection of the claims under 35 U.S.C. 112, second paragraph is appropriate. *In re Wiggins*, 488 F.2d 538, 179 USPQ 421 (CCPA 1973) {MPEP § 2173.02}. Additionally, the phrases could be interpreted as relative as they do not describe how the information is to be used and the value of the “figure of merit”; such information is also not present in the instant specification (i.e. specification does not provide a standard). See MPEP § 2173.05(b) with respect to relative terminology.

#### ***Status of Claims/Conclusion***

23. No claims are allowed.
24. Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner can normally be reached on Monday-Thursday and alternate Fridays from 9:30 to 7:00.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang, can be reached at (703) 306-3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.  
December 30, 2002



MAURIE GARCIA BAKER, Ph.D.  
PATENT EXAMINER